

SEQUENCE LISTING

<110> Croce, Carlo M.

<120> Nitrilase Homologs

<130> CRO01.NP001

<140> 09/357,675

<141> 1999-07-20

<150> 60/093,350

<151> 1998-07-20

<160> 31

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<211> 1416

<212> DNA

<213> Homo sapiens

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<221> misc_feature

<222> (19)...(19)

<223> n=a

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tctcagtact ttgtgtcag cccaggccca gagccatggc tatctctct tctcctcgcg    240
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aaacatgtgc tgagctggtt cgagaggctg ccagactggg tgcctgcctg gcttctctgc    360
ctgaggcatt tgacttcatg gcacgggacc ctgcagagac gctacacctg tctgaaccac    420
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cactgtctta agacttgact tctgtagtt tagacctgcc cctccacccc ccacctgcc    1140
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gagaaccttg actctctga tgaacacag atgggctgct tgggaaagaa actttcacct    1260
gagcttcacc tgaggtcaga ctgcagttc agaaagggtg aattttatat agtcattgt    1320
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taataataaa gtcaaaaaaa aaaaaaaaaa aaaaaa    1416

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MAR 13 2002
TECH CENTER 1600/2900

<210> 2
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 <212> DNA
 <213> Homo sapiens

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 <210> 4
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 <223> n=a, g, c or t

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 <213> Drosophila melanogaster

 <400> 6
 gcgcctttgt ggcctcgact g 21

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<213> Homo sapien

<220>
<223> Xaa is an unknown amino acid

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Leu Lys Thr Glu Leu Ser Phe Ala Leu Val Asn Arg Lys Pro Val Val
20 25 30
Pro Gly His Val Leu Val Cys Pro Leu Arg Pro Val Glu Arg Phe His
35 40 45
Asp Leu Arg Pro Asp Glu Val Ala Asp Leu Phe Gln Thr Thr Gln Arg
50 55 60
Val Gly Thr Val Val Glu Lys His Phe His Gly Thr Ser Leu Thr Phe

65 70 75 80
 Ser Xaa Gln Asp Gly Pro Glu Ala Gly Gln Thr Val Lys His Val His
 85 90 95
 Val His Val Leu Pro Arg Lys Ala Gly Asp Phe His Arg Asn Asp Ser
 100 105 110
 Ile Tyr Glu Glu Leu Gln Lys His Asp Lys Glu Asp Phe Pro Ala Ser
 115 120 125
 Trp Arg Ser Glu Glu Glu Ala Ala Glu Ala Ala Leu Arg Val
 130 135 140
 Tyr Phe Gln
 145

<210> 20
 <211> 150
 <212> PRT
 <213> murine

<400> 20
 Met Ser Phe Arg Phe Gly Gln His Leu Ile Lys Pro Ser Val Val Phe
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 Leu Lys Thr Glu Leu Ser Phe Ala Leu Val Asn Arg Lys Pro Val Val
 20 25 30
 Pro Gly His Val Leu Val Cys Pro Leu Arg Pro Val Glu Arg Phe Arg
 35 40 45
 Asp Leu His Pro Asp Glu Val Ala Asp Leu Phe Gln Val Thr Gln Arg
 50 55 60
 Val Gly Thr Val Val Glu Lys His Phe Gln Gly Thr Ser Ile Thr Phe
 65 70 75 80
 Ser Met Gln Asp Gly Pro Glu Ala Gly Gln Thr Val Lys His Val His
 85 90 95
 Val His Val Leu Pro Arg Lys Ala Gly Asp Phe Pro Arg Asn Asp Asn
 100 105 110
 Ile Tyr Asp Glu Leu Gln Lys His Asp Arg Glu Glu Glu Asp Ser Pro
 115 120 125
 Ala Phe Trp Arg Ser Glu Lys Glu Met Ala Ala Glu Ala Glu Ala Leu
 130 135 140
 Arg Val Tyr Phe Gln Ala
 145 150

<210> 21
 <211> 327
 <212> PRT
 <213> Homo sapien

<400> 21
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 20 25 30
 Arg Pro Arg Ala Met Ala Ile Ser Ser Ser Ser Cys Glu Leu Pro Leu
 35 40 45
 Val Ala Val Cys Gln Val Thr Ser Thr Pro Asp Lys Gln Gln Asn Phe
 50 55 60

Lys Thr Cys Ala Glu Leu Val Arg Glu Ala Ala Arg Leu Gly Ala Cys
 65 70 75 80
 Leu Ala Phe Leu Pro Glu Ala Phe Asp Phe Ile Ala Arg Asp Pro Ala
 85 90 95
 Glu Thr Leu His Leu Ser Glu Pro Leu Gly Gly Lys Leu Leu Glu Glu
 100 105 110
 Tyr Thr Gln Leu Ala Arg Glu Cys Gly Leu Trp Leu Ser Leu Gly Gly
 115 120 125
 Phe His Glu Arg Gly Gln Asp Trp Glu Gln Thr Gln Lys Ile Tyr Asn
 130 135 140
 Cys His Val Leu Leu Asn Ser Lys Gly Ala Val Val Ala Thr Tyr Arg
 145 150 155 160
 Lys Thr His Leu Cys Asp Val Glu Ile Pro Gly Gln Gly Pro Met Cys
 165 170 175
 Glu Ser Asn Ser Thr Met Pro Gly Pro Ser Leu Glu Ser Pro Val Ser
 180 185 190
 Thr Pro Ala Gly Lys Ile Gly Leu Ala Val Cys Tyr Asp Met Arg Phe
 195 200 205
 Pro Glu Leu Ser Leu Ala Leu Ala Gln Ala Gly Ala Glu Ile Leu Thr
 210 215 220
 Tyr Pro Ser Ala Phe Gly Ser Ile Thr Gly Pro Ala His Trp Glu Val
 225 230 235 240
 Leu Leu Arg Ala Arg Ala Ile Glu Thr Gln Cys Tyr Val Val Ala Ala
 245 250 255
 Ala Gln Cys Gly Arg His His Glu Lys Arg Ala Ser Tyr Gly His Ser
 260 265 270
 Met Val Val Asp Pro Trp Gly Thr Val Val Ala Arg Cys Ser Glu Gly
 275 280 285
 Pro Gly Leu Cys Leu Ala Arg Ile Asp Leu Asn Tyr Leu Arg Gln Leu
 290 295 300
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 305 310 315 320
 Asn Leu Gly His Pro Leu Ser
 325

<210> 22
 <211> 323
 <212> PRT
 <213> murine

<400> 22
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 Tyr Arg Leu Leu Arg Ile Pro Val Leu Cys Thr Gln Pro Arg Pro Arg
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 Thr Met Ser Ser Ser Thr Ser Trp Glu Leu Pro Leu Val Ala Val Cys
 35 40 45
 Gln Val Thr Ser Thr Pro Asn Lys Gln Glu Asn Phe Lys Thr Cys Ala
 50 55 60
 Glu Leu Val Gln Glu Ala Ala Arg Leu Gly Ala Cys Leu Ala Phe Leu
 65 70 75 80
 Pro Glu Ala Phe Asp Phe Ile Ala Arg Asn Pro Ala Glu Thr Leu Leu
 85 90 95
 Leu Ser Glu Pro Leu Asn Gly Asp Leu Leu Gly Gln Tyr Ser Gln Leu

100 105 110
 Ala Arg Glu Cys Gly Ile Trp Leu Ser Leu Gly Gly Phe His Glu Arg
 115 120 125
 Gly Gln Asp Trp Glu Gln Asn Gln Lys Ile Tyr Asn Cys His Val Leu
 130 135 140
 Leu Asn Ser Lys Gly Ser Val Val Ala Ser Tyr Arg Lys Thr His Leu
 145 150 155 160
 Cys Asp Val Glu Ile Pro Gly Gln Gly Pro Met Arg Glu Ser Asn Tyr
 165 170 175
 Thr Lys Pro Gly Gly Thr Leu Glu Pro Pro Val Lys Thr Pro Ala Gly
 180 185 190
 Lys Val Gly Leu Ala Ile Cys Tyr Asp Met Arg Phe Pro Glu Leu Ser
 195 200 205
 Leu Lys Leu Ala Gln Ala Gly Ala Glu Ile Leu Thr Tyr Pro Ser Ala
 210 215 220
 Phe Gly Ser Val Thr Gly Pro Ala His Trp Glu Val Leu Leu Arg Ala
 225 230 235 240
 Arg Ala Ile Glu Ser Gln Cys Tyr Val Ile Ala Ala Ala Gln Cys Gly
 245 250 255
 Arg His His Glu Thr Arg Ala Ser Tyr Gly His Ser Met Val Val Asp
 260 265 270
 Pro Trp Gly Thr Val Val Ala Arg Cys Ser Glu Gly Pro Gly Leu Cys
 275 280 285
 Leu Ala Arg Ile Asp Leu His Phe Leu Gln Gln Met Arg Gln His Leu
 290 295 300
 Pro Val Phe Gln His Arg Arg Pro Asp Leu Tyr Gly Ser Leu Gly His
 305 310 315 320
 Pro Leu Ser

<210> 23

<211> 460

<212> PRT

<213> *Drosophila melanogaster*

<400> 23

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 His Gln Gln Leu Arg Arg Met Ser Val Gln Lys Arg Lys Asp Gln Ser
 20 25 30
 Ala Thr Ile Ala Val Gly Gln Met Arg Ser Thr Ser Asp Lys Ala Ala
 35 40 45
 Asn Leu Ser Gln Val Ile Glu Leu Val Asp Arg Ala Lys Ser Gln Asn
 50 55 60
 Ala Cys Met Leu Phe Leu Pro Glu Cys Cys Asp Phe Val Gly Glu Ser
 65 70 75 80
 Arg Thr Gln Thr Ile Glu Leu Ser Glu Gly Leu Asp Gly Glu Leu Met
 85 90 95
 Ala Gln Tyr Arg Glu Leu Ala Lys Cys Asn Lys Ile Trp Ile Ser Leu
 100 105 110
 Gly Gly Val His Glu Arg Asn Asp Gln Lys Ile Phe Asn Ala His Val
 115 120 125
 Leu Leu Asn Glu Lys Gly Glu Leu Ala Ala Val Tyr Arg Lys Leu His
 130 135 140

Met Phe Asp Val Thr Thr Lys Glu Val Arg Leu Arg Glu Ser Asp Thr
 145 150 155 160
 Val Thr Pro Gly Tyr Cys Leu Glu Arg Pro Val Ser Thr Pro Val Gly
 165 170 175
 Gln Ile Gly Leu Gln Ile Cys Tyr Asp Leu Arg Phe Ala Glu Pro Ala
 180 185 190
 Val Leu Leu Arg Lys Leu Gly Ala Asn Leu Leu Thr Tyr Pro Ser Ala
 195 200 205
 Phe Thr Tyr Ala Thr Gly Lys Ala His Trp Glu Ile Leu Leu Arg Ala
 210 215 220
 Arg Ala Ile Glu Thr Gln Cys Phe Val Val Ala Ala Gln Ile Gly
 225 230 235 240
 Trp His Asn Gln Lys Arg Gln Ser Trp Gly His Ser Met Ile Val Ser
 245 250 255
 Pro Trp Gly Asn Val Leu Ala Asp Cys Ser Glu Gln Glu Leu Asp Ile
 260 265 270
 Gly Thr Ala Glu Val Asp Leu Ser Val Leu Gln Ser Leu Tyr Gln Thr
 275 280 285
 Met Pro Cys Phe Glu His Arg Arg Asn Asp Ile Tyr Ala Leu Thr Ala
 290 295 300
 Tyr Asn Leu Arg Ser Lys Glu Pro Thr Gln Asp Arg Pro Phe Ala Thr
 305 310 315 320
 Asn Ile Val Asp Lys Arg Thr Ile Phe Tyr Glu Ser Glu His Cys Phe
 325 330 335
 Ala Phe Thr Asn Leu Arg Cys Val Val Lys Gly His Val Leu Val Ser
 340 345 350
 Thr Lys Arg Val Thr Pro Arg Leu Cys Gly Leu Asp Cys Ala Glu Met
 355 360 365
 Ala Asp Met Phe Thr Thr Val Cys Leu Val Gln Arg Leu Leu Glu Lys
 370 375 380
 Ile Tyr Gln Thr Thr Ser Ala Thr Val Thr Val Gln Asp Gly Ala Gln
 385 390 395 400
 Ala Gly Gln Thr Val Pro His Val His Phe His Ile Met Pro Arg Arg
 405 410 415
 Leu Gly Asp Phe Gly His Asn Asp Gln Ile Tyr Val Lys Leu Asp Glu
 420 425 430
 Arg Ala Glu Glu Lys Pro Pro Arg Thr Ile Glu Glu Arg Ile Glu Glu
 435 440 445
 Ala Gln Ile Tyr Arg Lys Phe Leu Thr Asp Ile Ser
 450 455 460

<210> 24

<211> 440

<212> PRT

<213> C. elegans

<400> 24

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 20 25 30
 Gln Ala Ala Lys Asn Met Ile Glu Arg Ala Gly Glu Lys Lys Cys Glu
 35 40 45
 Met Val Phe Leu Pro Glu Cys Phe Asp Phe Ile Gly Leu Asn Lys Asn

50 55 60
 Glu Gln Ile Asp Leu Ala Met Ala Thr Asp Cys Glu Tyr Met Glu Lys
 65 70 75 80
 Tyr Arg Glu Leu Ala Arg Lys His Asn Ile Trp Leu Ser Leu Gly Gly
 85 90 95
 Leu His His Lys Asp Pro Ser Asp Ala Ala His Pro Trp Asn Thr His
 100 105 110
 Leu Ile Ile Asp Ser Asp Gly Val Thr Arg Ala Glu Tyr Asn Lys Leu
 115 120 125
 His Leu Phe Asp Leu Glu Ile Pro Gly Lys Val Arg Leu Met Glu Ser
 130 135 140
 Glu Phe Ser Lys Ala Gly Thr Glu Met Ile Pro Pro Val Asp Thr Pro
 145 150 155 160
 Ile Gly Arg Leu Gly Leu Ser Ile Cys Tyr Asp Val Arg Phe Pro Glu
 165 170 175
 Leu Ser Leu Trp Asn Arg Lys Arg Gly Ala Gln Leu Leu Ser Phe Pro
 180 185 190
 Ser Ala Phe Thr Leu Asn Thr Gly Leu Ala His Trp Glu Thr Leu Leu
 195 200 205
 Arg Ala Arg Ala Ile Glu Asn Gln Cys Tyr Val Val Ala Ala Ala Gln
 210 215 220
 Thr Gly Ala His Asn Pro Lys Arg Gln Ser Tyr Gly His Ser Met Val
 225 230 235 240
 Val Asp Pro Trp Gly Ala Val Val Ala Gln Cys Ser Glu Arg Val Asp
 245 250 255
 Met Cys Phe Ala Glu Ile Asp Leu Ser Tyr Val Asp Thr Leu Arg Glu
 260 265 270
 Met Gln Pro Val Phe Ser His Arg Arg Ser Asp Leu Tyr Thr Leu His
 275 280 285
 Ile Asn Glu Lys Ser Ser Glu Thr Gly Gly Leu Lys Phe Ala Arg Phe
 290 295 300
 Asn Ile Pro Ala Asp His Ile Phe Tyr Ser Thr Pro His Ser Phe Val
 305 310 315 320
 Phe Val Asn Leu Lys Pro Val Thr Asp Gly His Val Leu Val Ser Pro
 325 330 335
 Lys Arg Val Val Pro Arg Leu Thr Asp Leu Thr Asp Ala Glu Thr Ala
 340 345 350
 Asp Leu Phe Ile Val Ala Lys Lys Val Gln Ala Met Leu Glu Lys His
 355 360 365
 His Asn Val Thr Ser Thr Thr Ile Cys Val Gln Asp Gly Lys Asp Ala
 370 375 380
 Gly Gln Thr Val Pro His Val His Ile His Ile Leu Pro Arg Arg Ala
 385 390 395 400
 Gly Asp Phe Gly Asp Asn Glu Ile Tyr Gln Lys Leu Ala Ser His Asp
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 Lys Glu Pro Glu Arg Lys Pro Arg Ser Asn Glu Gln Met Ala Glu Glu
 420 425 430
 Ala Val Val Tyr Arg Asn Leu Met
 435 440

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<211> 362

<212> PRT

<213> Homo sapien

<220>

<221> UNSURE

<222> (6)...(6)

<223> Xaa=unknown amino acid

<400> 25

Pro Leu Ala Ala Ala Xaa Leu Ala Pro Asp Arg Pro Pro Asp Arg Thr
1 5 10 15
Leu Arg Met Val Leu Ala Ile Ser Ser Cys Arg Thr Tyr Ser Leu Ser
20 25 30
Arg Arg Pro Arg Leu Gly Phe Ile Thr Arg Pro Pro His Arg Phe Leu
35 40 45
Ser Leu Leu Cys Pro Gly Leu Arg Ile Pro Gln Leu Ser Val Leu Cys
50 55 60
Ala Gln Pro Arg Pro Arg Ala Met Ala Ile Ser Ser Ser Ser Cys Glu
65 70 75 80
Leu Pro Leu Val Ala Val Cys Gln Val Thr Ser Thr Pro Asp Lys Gln
85 90 95
Gln Asn Phe Lys Thr Cys Ala Glu Leu Val Arg Glu Ala Ala Arg Leu
100 105 110
Gly Ala Cys Leu Ala Phe Leu Pro Glu Ala Phe Asp Phe Ile Ala Arg
115 120 125
Asp Pro Ala Glu Thr Leu His Leu Ser Glu Pro Leu Gly Gly Lys Leu
130 135 140
Leu Glu Glu Tyr Thr Gln Leu Ala Arg Glu Cys Gly Leu Trp Leu Ser
145 150 155 160
Leu Gly Gly Phe His Glu Arg Gly Gln Asp Trp Glu Gln Thr Gln Lys
165 170 175
Ile Tyr Asn Cys His Val Leu Leu Asn Ser Lys Gly Ala Val Val Ala
180 185 190
Thr Tyr Arg Lys Thr His Leu Cys Asp Val Glu Ile Pro Gly Gln Gly
195 200 205
Pro Met Cys Glu Ser Asn Ser Thr Met Pro Gly Pro Ser Leu Glu Ser
210 215 220
Pro Val Ser Thr Pro Ala Gly Lys Ile Gly Leu Ala Val Cys Tyr Asp
225 230 235 240
Met Arg Phe Pro Glu Leu Ser Leu Ala Leu Ala Gln Ala Gly Ala Glu
245 250 255
Ile Leu Thr Tyr Pro Ser Ala Phe Gly Ser Ile Thr Gly Pro Ala His
260 265 270
Trp Glu Val Leu Leu Arg Ala Arg Ala Ile Glu Thr Gln Cys Tyr Val
275 280 285
Val Ala Ala Ala Gln Cys Gly Arg His His Glu Lys Arg Ala Ser Tyr
290 295 300
Gly His Ser Met Val Val Asp Pro Trp Gly Thr Val Val Ala Arg Cys
305 310 315 320
Ser Glu Gly Pro Gly Leu Cys Leu Ala Arg Ile Asp Leu Asn Tyr Leu
325 330 335
Arg Gln Leu Arg Arg His Leu Pro Val Phe Gln His Arg Arg Pro Asp
340 345 350
Leu Tyr Gly Asn Leu Gly His Pro Leu Ser
355 360

<210> 26
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<212> PRT
<213> Homo sapien

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His Tyr Glu Leu Val Leu Met
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<213> Homo sapien

<400> 30
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<210> 31

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Lys Lys Lys Lys
20